



charge in cfs			Total Recoverable Iron Coefficients				
	Intercept	coefficient		B	Intercept		
			Low Flow November-March				
M34	-2.771	0.394	-2.28954	<u>0.38718</u>	A72	0.290	967.14829
CC48	1.752	0.130	6.77165	<u>0.10539</u>	M34	0.0462213.03711	
A68	-11.131	0.498	-3.62869	<u>0.45153</u>	CC48	1.000	6149.71503
					A68	0.000	417.72851

Discharge Relationships among the three gages

MONTH	J	F	M	A	M	J	J
Intercept	1	1	1	1	1	1	1
A 72	64	63	77	155	682	1196	624
M34	22	22	28	58	266	468	243
CC48	14	13	15	22	91	158	83
A68	25	25	31	66	329	585	300
Ground water	3	3	3	9	-3	-14	-2

1/(1+BQ) Discharge Representation

A 72	0.0511	0.0519	0.0429	0.0218	0.0050	0.0029	0.0055
M34	0.4915	0.4959	0.4413	0.2718	0.0756	0.0444	0.0821
CC48	0.0689	0.0694	0.0629	0.0435	0.0109	0.0063	0.0119
A68	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Date variables

sin	0.1552	0.6358	0.9276	0.9887	0.7862	0.3629	-0.1441
cos	0.9879	0.7719	0.3737	-0.1496	-0.6180	-0.9318	-0.9896
sin1	0.3066	0.9815	0.6932	-0.2959	-0.9717	-0.6763	0.2852
cos1	0.9518	0.1916	-0.7207	-0.9552	-0.2361	0.7366	0.9585
Consent	1	1	1	1	1	1	1

A72	Intercept	1	1	1	1	1	1
	BQ	0.0511	0.0519	0.0429	0.0218	0.0050	0.0029
	sin	0.1552	0.6358	0.9276	0.9887	0.7862	0.3629
	cos	0.9879	0.7719	0.3737	-0.1496	-0.6180	-0.9318
	sin1	0.3066	0.9815	0.6932	-0.2959	-0.9717	-0.6763
	cos1	0.9518	0.1916	-0.7207	-0.9552	-0.2361	0.7366
	Consent						

A72 Concentration **4400** **4835** **4503** **3201** **2015** **1663** **1522**

M34	Intercept	1	1	1	1	1	1
	BQ	0.4915	0.4959	0.4413	0.2718	0.0756	0.0444
	sin	0.1552	0.6358	0.9276	0.9887	0.7862	0.3629
	cos	0.9879	0.7719	0.3737	-0.1496	-0.6180	-0.9318
	sin1	0.3066	0.9815	0.6932	-0.2959	-0.9717	-0.6763
	cos1	0.9518	0.1916	-0.7207	-0.9552	-0.2361	0.7366
	Consent	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

M34 Concentration **4848** **4871** **4578** **3670** **2618** **2451** **2653**

CC 48	Intercept	1	1	1	1	1	1	1
	BQ	0.0689	0.0694	0.0629	0.0435	0.0109	0.0063	0.0119
	sin	0.1552	0.6358	0.9276	0.9887	0.7862	0.3629	-0.1441
	cos	0.9879	0.7719	0.3737	-0.1496	-0.6180	-0.9318	-0.9896
	sin1	0.3066	0.9815	0.6932	-0.2959	-0.9717	-0.6763	0.2852
	cos1	0.9518	0.1916	-0.7207	-0.9552	-0.2361	0.7366	0.9585
	Consent	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
CC 48 Concentratrion		9912	9699	8832	7285	5433	4412	4134
A68	Intercept	1	1	1	1	1	1	1
	BQ	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	sin	0.1552	0.6358	0.9276	0.9887	0.7862	0.3629	-0.1441
	cos	0.9879	0.7719	0.3737	-0.1496	-0.6180	-0.9318	-0.9896
	sin1	0.3066	0.9815	0.6932	-0.2959	-0.9717	-0.6763	0.2852
	cos1	0.9518	0.1916	-0.7207	-0.9552	-0.2361	0.7366	0.9585
	Consent							
A68 Concentration		432	560	644	673	633	534	406
Concentratio		2640	2715	2611	2171	1626	1492	1530
Load in pounds per day								
	Sum	1410	1398	1547	2361	7515	11521	5979
	A72	1521	1645	1872	2680	7420	10739	5127
	% Difference	-0.07	-0.15	-0.17	-0.12	0.01	0.07	0.17
	RPD	-0.08	-0.16	-0.19	-0.13	0.01	0.07	0.15

total Recoverable Iron Coefficients

BQ sin cos

70284.48741 672.13924 -267.91244

5360.03508 515.84443 1296.14462

21591.29071 532.89897 2218.80854

0 254.47374 -25.25660

A	S	O	N	D
1	1	1	1	1
268	187	142	92	70
103	71	53	33	25
37	26	20	16	14
122	82	60	38	28
6	8	9	4	3

0.0127	0.0181	0.0237	0.0361	0.0469
0.1746	0.2348	0.2903	0.3948	0.4670
0.0265	0.0368	0.0470	0.0572	0.0660
1.0000	1.0000	1.0000	1.0000	1.0000

-0.6271	-0.9360	-0.9878	-0.7716	-0.3573
-0.7789	-0.3521	0.1556	0.6361	0.9340
0.9769	0.6591	-0.3074	-0.9816	-0.6674
0.2135	-0.7521	-0.9516	-0.1908	0.7447

1	1	1	1	1
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1	1	1	1	1
0.0127	0.0181	0.0237	0.0361	0.0469
-0.6271	-0.9360	-0.9878	-0.7716	-0.3573
-0.7789	-0.3521	0.1556	0.6361	0.9340
0.9769	0.6591	-0.3074	-0.9816	-0.6674
0.2135	-0.7521	-0.9516	-0.1908	0.7447

1647	1705	1928	2817	3777
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1	1	1	1	1
0.1746	0.2348	0.2903	0.3948	0.4670
-0.6271	-0.9360	-0.9878	-0.7716	-0.3573
-0.7789	-0.3521	0.1556	0.6361	0.9340
0.9769	0.6591	-0.3074	-0.9816	-0.6674
0.2135	-0.7521	-0.9516	-0.1908	0.7447
1.0000	1.0000	1.0000	1.0000	1.0000
3149	3471	3769	4329	4716

1	1	1	1	1
0.0265	0.0368	0.0470	0.0572	0.0660
-0.6271	-0.9360	-0.9878	-0.7716	-0.3573
-0.7789	-0.3521	0.1556	0.6361	0.9340
0.9769	0.6591	-0.3074	-0.9816	-0.6674
0.2135	-0.7521	-0.9516	-0.1908	0.7447
1.0000	1.0000	1.0000	1.0000	1.0000
4660	5665	6984	8386	9457

1	1	1	1	1
1.0000	1.0000	1.0000	1.0000	1.0000
-0.6271	-0.9360	-0.9878	-0.7716	-0.3573
-0.7789	-0.3521	0.1556	0.6361	0.9340
0.9769	0.6591	-0.3074	-0.9816	-0.6674
0.2135	-0.7521	-0.9516	-0.1908	0.7447

278	188	162	205	303
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1713	1830	1966	2267	2510
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2912	2290	1994	1619	1442
2384	1722	1478	1400	1428

0.22	0.33	0.35	0.16	0.01
0.20	0.28	0.30	0.15	0.01

A72

Chronic TVS at A72
a2 b2

Cd	-3.49	0.7852
Cu	-1.485	0.8545
Mn	4.785	0.5434
Zn	0.7614	0.8473

Predicction Equation Coefficients
Hardness

B	0.006
Intercept	82.304
BQ	200.676
sin	16.936
cos	48.860
sin1	15.385
cos1	-5.633

Month	J	F	M	A	M	J	J
Q	64	63	77	155	682	1196	624
Hardness	277	290	268	196	91	53	72
Fe	1000	1000	1000	1000	1000	1000	1000

M 34

Prediction equation coefficients

Hardness Aluminum Cadmium Copper Iron Zinc

B	0.013	1.00	0.021	0.123	0.06521	0.021
Intercept	60.05228	15.10361	0.91724	14.65129	77.70523	05.25873
BQ	205.02801	38.29032	0.60966	00.98354	70.29706	78.11589
sin	9.24827	69.03843	0.26911	14.16661	-89.38888	88.77920
cos	32.30173	79.08681	0.20991	10.17487	38.04002	85.94018
sin1		435.43127	-0.12214	1.04278	86.24646	-17.99615
cos1		123.10453	-0.14689	-3.82920	-12.30367	-45.60154
consent		-265.10754		-10.75402	35.80515	-98.00378

MONTH J F M A M J J

Avg monthly	Q	22	22	28	58	266	468	243
	Hardness	255	241	226	170	86	60	76
Chronic Stan	Fe	1000	1000	1000	1000	1000	1000	1000

A68 Animas at Silverton

Prediction equation coefficients

Hardness Cadmium Copper Manganese Zinc

B	0.011na	na	0.010	0.016
Intercept	37.945	2.395	5.783	258.473
BQ	165.600		1371.923	644.136
sin		1.712	2.049	611.024
cos		0.140	0.729	81.662
sin1		-0.250	-1.520	16.031
cos1		-1.185	-0.472	-263.628
May		-1.936	2.261	-258.699
consent		-0.714	-1.828	411.428
				-67.174

Animas R	Month	J	F	M	A	M	J	J
	Q	25	25	31	66	329	585	300
	Hardness	168	168	161	134	74	60	76
	Cd,tvs	1.7	1.7	1.7	1.4	0.9	0.8	0.9
	Cu tvs	18	18	17	15	9	8	9
	Mn tvs	1935	1938	1895	1713	1240	1110	1264
onic stand	Fe	1000	1000	1000	1000	1000	1000	1000

ction Equation Coefficients

A	S	O	N	D
268	187	142	92	70
124	158	182	215	248
1000	1000	1000	1000	1000

Acute TVS at M34 Chronic TVS at M34
a2 b2 a3 b3

Cd	-3.828	1.128	-3.49	0.7852
Cu	-0.7703	0.9422	-1.485	0.8545
Mn	4.4995	0.7893	4.785	0.5434
Zn	0.8904	0.8473	0.7614	0.8473

A	S	O	N	D
103	71	53	33	25
126	151	192	217	253
1000	1000	1000	1000	1000

Chronic TVS at A68

a2 b2

Cd	-3.49	0.7852
Cu	-1.485	0.8545
Mn	4.785	0.5434
Zn	0.7614	0.8473

A	S	O	N	D
122	82	60	38	28
109	125	138	155	165
1.2	1.4	1.5	1.6	1.7
12	14	15	17	18
1528	1650	1741	1854	1916
1000	1000	1000	1000	1000